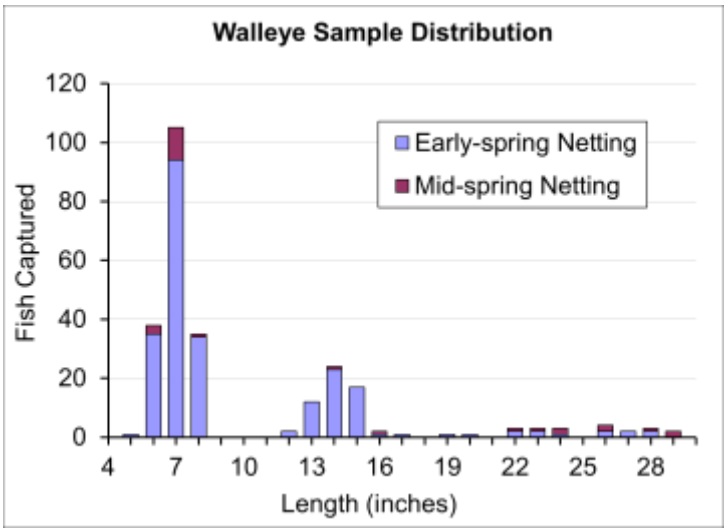
Wisconsin Department of Natural Resources
Fishery Information Sheet

LAKE: Musser Flowage **COUNTY:** Price **YEAR:** 2016 – 2017

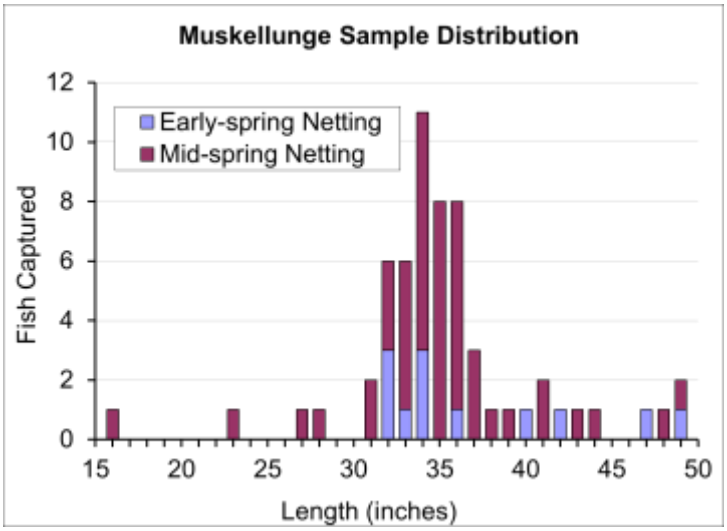
Musser Flowage is a shallow, 563-acre impoundment on the Elk River. Maximum and average depths are 15 and 5 feet, and a fourth of the surface area is less than 3 feet deep. Sand and muck are the predominant lakebed materials. High levels of dissolved nutrients can give rise to severe algae blooms, oxygen-depleted bottom water, and dense aquatic vegetation in summer. With low water clarity limiting light penetration, most rooted aquatic plants grow at 2- to 4-foot depths. Herbicide applied on targeted areas (0.8 – 23.5 acres) in 2005 – 2010 was ineffective in controlling the invasive curly-leaf pondweed population. In 1996, 1998, and 2002 rock blankets (low-profile layers of 2- to 12-inch diameter field stone) were added at one mid-lake and nine shoreline locations (total = 46,125 square feet) in an attempt to create walleye spawning habitat, but no positive effect on walleye reproduction could be attributed to them after several years of evaluation. Fyke netting at ice-out targeted northern pike, walleye, and yellow perch, and then later, muskellunge. In late spring 2017 when water temperature was 74°F, WDNR assessed bass and bluegill populations by electrofishing. Our fall 2016 netting effort specifically focused on black crappies, but it also provided useful information on bluegills. Annual fall electrofishing surveys assessed walleye recruitment since 2014.

Walleye



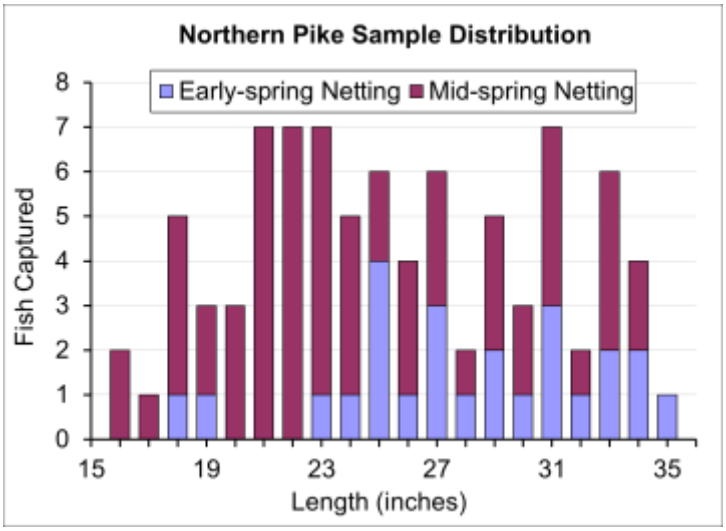
Early spring fyke nets captured 254 walleyes at a rate of 2.5 fish ≥ 10" per net-night. Nets fished later for muskellunge caught 27 more walleye at 0.2 fish per net-night. Those captured only once ranged 5.9 – 29.9" and averaged 10.9" long. Most walleyes in our netting samples were the overwinter survivors of 10,061 large fingerlings averaging 7.2" that were stocked in October 2016. Estimated walleye population density was 0.2 adults per acre, based on the ratio of fin-clipped to newly-captured fish in four successive early fyke net lifts. Among 80 walleyes 10" or longer in both netting samples combined, 26% were legal-size fish 15 – 20", and 16% were legal-size fish 24" or longer. Musser Flowage's walleye population relies entirely on continued stocking. We found no evidence of natural recruitment in 5 consecutive electrofishing surveys in fall 2014 – 2018. The large, old fish in our samples likely stem regular stocking in even-numbered years 1990 – 2012 usually at rates of 35 or 50 small fingerlings per acre that were typically < 2". Electrofishing capture rates of 1.2 and 12.5 yearlings per mile in fall 2015 and 2017 indexed the relative survival of walleye stocked as large fingerlings in 2014 and 2016.

Muskellunge



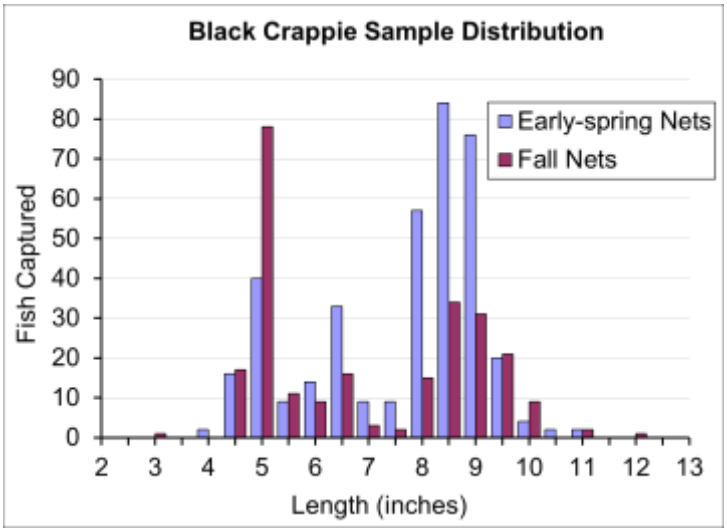
Early- and mid-spring fyke netting captured 66 muskellunge at a rate of 0.7 fish ≥ 30" per net-night. Unique fish ranged 16.1 – 49.9" and averaged 35.8". Two were tiger muskies 27.7 and 33.9" – a natural hybrid of northern pike and muskellunge. Among muskies 30" and longer, 21% were ≥ 38" and 13% were at least 42" long. The fishery is sustained mainly by its long stocking history—most recently at a rate of 0.5 large (12") fingerling per acre in odd-numbered years. Fall electrofishing captured one natural musky fingerling 8.0 – 8.7" in 1996, 2002, and 2018—years when no muskies were planted, but we do not know the relative contributions of stocking and natural reproduction to the adult population. A 40.3-inch female tagged in fall 2015 and recaptured in spring 2017 gained 1.4" in one growing season.

Northern Pike



Early spring fyke nets captured 25 pike at a low rate of 0.8 fish ≥ 14" per net-night. Nets fished later for muskies caught 69 additional pike at 1.2 per net-night. Excluding 8 fish caught more than once, they ranged 16.4 – 35.7" and averaged 26" long in both samples combined. Nearly 35% of pike ≥ 14" in our netting samples were 28" or longer and 6% were at least 34" long. The wide range of size and age classes suggests that the population produces a consistent supply of natural recruits to replace the adults that die by angling and natural causes.

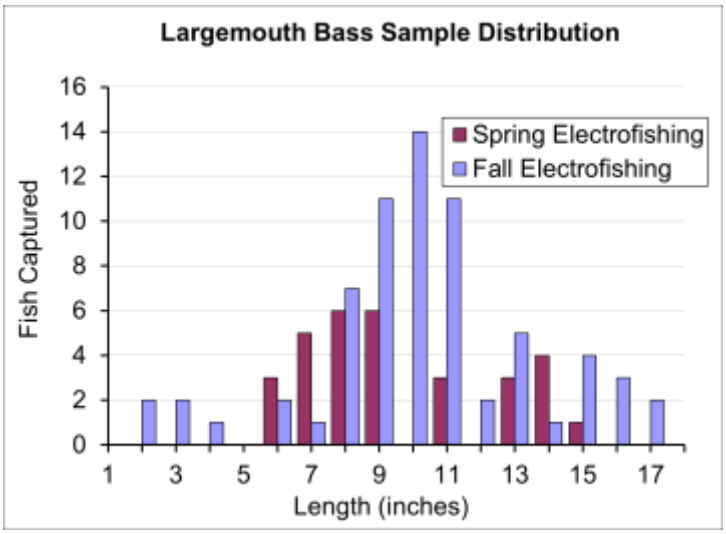
Black Crappie



Fall fyke nets specifically set for black crappies captured 250 crappies that ranged 3.3 – 12.0" and averaged 7.1" long. Early spring nets captured 2,068 crappies from which subsample of 377 ranged 4.4 – 11.4" and averaged 7.9". Our catch rates of 19 and 66 crappies ≥ 5" per net-night in fall and early spring point toward high population abundance that often leads to crowding, intense food competition, and slow growth. Ring counts on ear bones extracted from 10 crappies 9.3 – 10.3" revealed that crappies in Musser Lake grew at an extremely slow rate with most still not

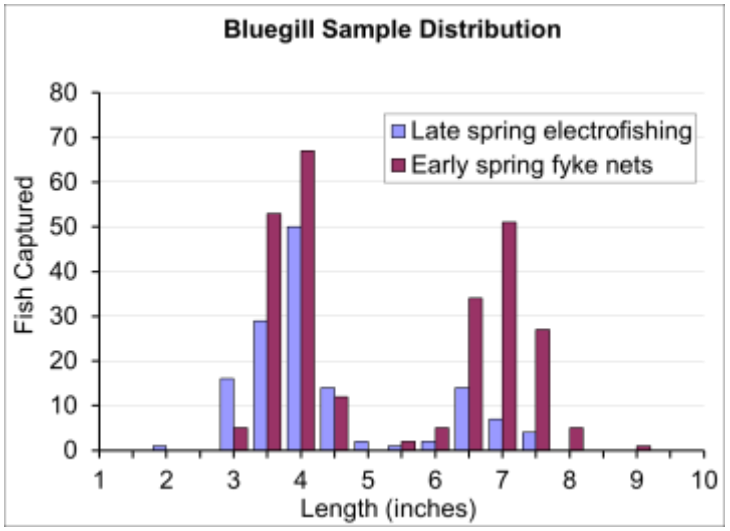
attaining 10" after 6, 8, 12, or even 14 years. One crappie aged from Musser Flowage grew to 10.3" in 10 years, whereas in northern Wisconsin crappies generally reach 10.1" by age 6. Crappie anglers should enjoy fast fishing action, but the population's size structure will likely disappoint them. Only 5% of crappies in fall nets and 2% in spring nets were 10" and longer. Crappies had high abundance and poor size distribution in our 2010 – 2011 surveys, too. We expect this dissatisfying population status will persist, unless stocked walleye can add enough predatory pressure to control panfish abundance.

Largemouth Bass



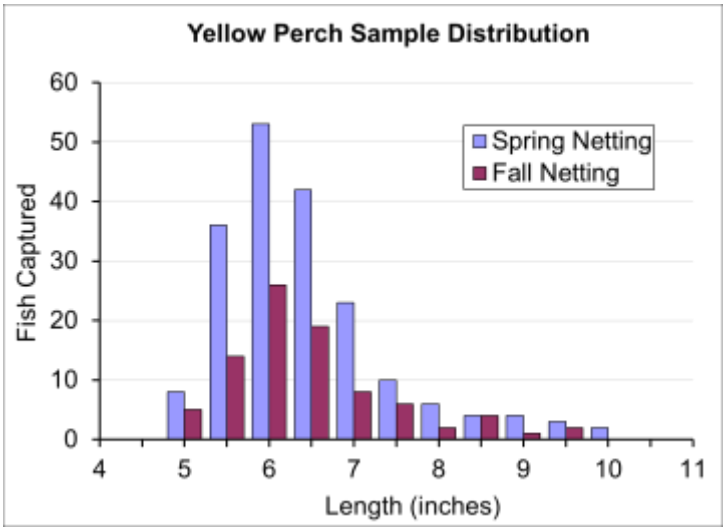
In our late spring electrofishing survey for bass and bluegill, we caught 31 largemouth bass that ranged 6.5 – 15.3" and averaged 10.0" long. While electrofishing for young walleye in fall, we incidentally captured 68 bass that ranged 2.0 – 17.2" and averaged 10.6". Catch rates of 5.4 bass ≥ 8" per mile or 13 per hour in spring and 15 per mile or 28 per hour in fall indicated low to moderate population abundance. Legal-size bass ≥ 14" comprised 22% and 17% of our spring and fall samples. Three bass 18.0 – 19.2" in the bycatch of recent surveys show that Musser Flowage can produce some larger fish. Our spring measures suggest that bass population abundance and size distribution did not change much since our last survey in spring 2011 when we caught 8.3 bass per mile or 16 per hour, and 24% were legal-size fish.

Bluegill



In late spring we dip-netted 140 bluegills at electrofishing capture rates of 135 fish ≥ 3" per mile and 331 per hour that indicated moderate to high population abundance. They ranged 2.3 – 7.7" and averaged 4.6" long. About 8% of bluegills in our electrofishing sample were 7" or longer. Sometimes fyke nets capture higher percentages of large bluegills that go undetected by electrofishing. Early spring fyke nets caught 1,700 bluegills or 57 per net-night. They ranged 3.2 – 9.4" and averaged 5.5" with nearly a third 7" or longer and 2.3% at least 8" long. Fall nets captured 605 bluegills ranging 3.1 – 8.2" and averaging 4.6" at a rate of 50 fish ≥ 3" per net-night with 13% at least 7", but only one fish attaining 8". Bluegill population abundance has changed little, and its size structure has improved slightly since our last assessments. Late spring 2011 electrofishing captured 180 bluegills ≥ 3" per mile or 310 per hour and 2% were at least 7". Only 6% of bluegill in early spring 2011 fyke nets were ≥ 7", and none were 8" long.

Yellow Perch



Until a standardized assessment method is selected, we can cautiously characterize yellow perch population status from fyke netting surveys in spring and fall, which point to moderately high abundance with plenty to feed gamefish and a few of the size that anglers like to eat. Fall 2016 fyke nets captured 87 perch at a rate of 7.3 fish ≥ 5" per net-night. They ranged 5.0 – 9.9" and averaged 6.6". Early spring 2017 nets caught 1,894 perch or 63 per net-night. A measured subsample of 191 perch in spring nets ranged 5.1 – 10.0" and averaged 6.6". In both spring and fall netting samples 10% were at least 8" long. Perch are the favorite food of northern pike, walleye, muskellunge, and largemouth bass. Adult pike and muskies tend to selectively eat the largest perch to obtain an efficient ration.

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